Job Ref: 4641

PLANNING SUPPORT STATEMENT

Proposed School Hall and Ancillary Support Rooms

at

Rushton Primary School
Station Road,
Rushton,
Northants
NN14 1RL

Jan 2011
Ref.: SB/4641/27650b/SB
PLANNING SUPPORT STATEMENT

Content

01 Introduction
02 Supporting Drawings
03 Site History / Development Proposal
04 Community Involvement
05 Local Context
06 Planning Policy Analysis
07 Hot Meals Plan
01. Introduction
Rushton Primary School is currently looking to extend their existing school facilities, which will involve providing a new school hall and ancillary support rooms.

ADDRESS
Rushton Primary School
Station Road
Rushton
Northamptonshire
NN14 1RL

02. Supporting Drawings
The proposal is as shown on the submitted drawings.

4641/01A Plan as Existing A3
4641/05E Site Layout Plan A1
4641/10B Plan as Proposed A1
4641/11F Elevation A1
4641/12A Site Location Plan A4
4508/SK01 Track Run Analysis

03. Site History / Development Proposal
Rushton Primary School is a small village school, which currently has approximately 80 pupils on its register. Although the School has recently undertaken building works to improve the teaching facilities for the pupils there is no allocated room for assembly, PE or meal times. It is planned to extend their existing school facilities, which will involve providing a new school hall and ancillary support rooms.

The proposed building will not only improve the learning environment for the pupils but also secure the Village School’s long-term viability. The School is hoping to use this new facility for after School activities.

There will be no increase in children or staff numbers as a result of the proposals.

04. Community Involvement
Full consultations have been sought with the Headteacher during the design process and a public consultation evening took place in September.

Neighbour comments received during the planning consultation period have been taken into account and as a result the proposal has been moved away from the south boundary and the overall height lowered.
05. Local Context
The west boundary is a 2.5m high, chain link fence with hedging growing up and through it, acting as a visual screen between the school ground and the neighbouring residential properties.
The existing South boundary brick wall will remain if structurally sound and completed with a closed board timber fence with the height to match the existing fence.
The existing site / buildings are not Listed but are within a Conservation Area.

06. Planning Policy Analysis
This section will provide an assessment of the proposal against relevant National and Regional planning guidance.
This section will review relevant policies of the following documents:
- National Planning Policy
- East Midlands Regional Plan
- North Northamptonshire Core Spatial Strategy
- Kettering saved Local Plan Policies
Adopted Supplementary Planning Guidance & Development Briefs have been referred to and considered during the design process. Details can be found in the Design and Access Statement and Planning Support Statement.

National Planning Policy
Planning Policy Statements (PPS) provide national guidance and policies through a number of topic-based papers. All regional and local development plans must accord with the policies contained within the documents. The following PPSs are considered relevant to this application:
- PPS 1 – Delivering Sustainable Development  (covered within the following section - North Northamptonshire Core Spatial Strategy Policy 13 Assessment)
- PPS 5 – Planning for Historic Environments

Assessment
It is considered that the application is in accordance with the aims and objectives of PPS 5.
Rushton Primary School is a very popular, thriving school, but it can only stay competitive if it provides a PE, dining and assembly hall.
The existing school buildings are reflected within the new proposal as much as possible using materials and details as described within the design and access statement. The slight increase in height compared to the main school building ridge is a function of the use, as the proposal is to contain PE climbing frames. The roof pitch has been lowered following discussions with the Planning Authority to reduce the overall height and impact.
The position of the new school hall has been carefully considered to minimise its impact on not only neighbouring properties but also existing school facilities.
The proposed Hall is set within the existing playground with no visible impact from Station Road and only over adjoining gardens from Chapel Lane.
East Midlands Regional Plan

Policy 2 – Prompting Better Design

Although this is not considered a ‘new development’ the extension incorporates a design lead approach and incorporates systems to minimise energy use whilst considering the historic character of the school and village. Non-renewable materials are limited in their use.

North Northamptonshire Core Spatial Strategy

Policy 13 – General Sustainable Development Principles

Policy 13 sets out the overarching planning policies for the delivery of sustainable development through the planning system. It contains the following relevant principles, which should be applied to development plans and decisions on planning applications, so to ensure the delivery of sustainable developments. Briefly these are:

**Development should meet the needs of residents and businesses without compromising the ability of future generations to enjoy the same quality of life that the present generation aspires to. Development should:**

**Meet needs**

a) incorporate flexible designs for buildings and their settings, including access to amenity space, enabling them to be adapted to future needs and to take into account the needs of all users;

b) seek to design out antisocial behaviour, crime and reduce the fear of crime by applying the principles of the “secured by Design” scheme;

f) Not lead to the loss of community facilities, unless it can be demonstrated that they are no longer needed by the community they serve and are not needed for any other community use, or that the facility is being relocated and improved to meet the needs of the new and existing community;

g) Not lead to the loss of open space or recreation facilities, unless a site of equivalent quality and accessibility can be provided, serviced and made available to the community prior to use of the existing site ceasing.

**Raise standards**

h) Be of a high standard of design, architecture and landscaping, respect and enhance the character of its surroundings and be in accordance with the Environmental Character of the area;

i) Create a strong sense of place by strengthening the distinctive historic and cultural qualities and townscape of the towns and villages through its design, landscaping and use of public art;

**Protect assets**

l) Not result in an unacceptable impact on the amenities of neighbouring properties or the wider area, by reason of noise, vibration, smell, light or other pollution, loss of light or overlooking;

n) Not have an adverse impact on the highway network and will not prejudice highway safety;

o) Conserve and enhance the landscape character, historic landscape designated built environmental assets and their settings, and biodiversity of the environment making reference to the Environmental Character Assessment and green infrastructure Strategy;
q) Not cause a risk to (and where possible enhance) the quality of the underlying groundwater or surface water, or increase the risk of flooding on the site or elsewhere, and where possible incorporate sustainable Drainage systems (suDs) and lead to a reduction in flood risk.

Assessment

It is considered that the proposed development of Rushton Primary School achieves the aims of Policy 13.

The Hall development on the schools playground will allow for the opportunity to:

- remove the need for the children to eat their school dinner in their classrooms, which is the current undesirable practice;
- create a Multipurpose Hall, which provides space for assembly, PE and dining. This will allow the school to economically structure the daily work without converting valuable classrooms into assembly rooms or PE halls and losing precious teaching time by doing so;
- flexible use of the new hardstanding play area, without losing the grassed football pitch. The proposed hardstanding area allows various games and its new location is further away from the westwards neighbouring properties, which will reduce the noise level during break times;
- improve the disabled access to the School.
- The impact on loss of light on the amenities of neighbouring properties has been considered and as a result the new proposal has been moved a maximum of 1.84m away from the south boundary. The pitched roof Hall section of the proposed development has been moved away from the West boundary to reduce the impact on the West neighbouring property, following the public consultation.

The new position of the proposed Hall reflects the maximum it can be moved away from the boundary without making the size of the ancillary spaces unusable to the school.

- Policy 14 – Energy Efficiency and Sustainable Construction

Policy 14 sets out the planning policies for the delivery of sustainable construction through the planning system. The relevant requirements have to be achieved by combining appropriate measures in undertaking construction, which should be applied to development plans and decisions on planning applications.

Assessment

The proposed development supports the principals of achieving an energy efficient and sustainable construction set out in Policy 14.

Heating the new spaces will be via an air source heat pump will be installed and all building elements will be fully insulated to keep heat loss to a minimum.

Kettering saved Local Plan Policies

- Rushton Conservation Area

There are no saved policies within Kettering Local Plan, which specifically refer to development within conservation areas. Nevertheless in the interests of preserving the architectural quality of Rushton as a conservation area full consideration took place during the design process and relevant design details have been introduced as described within the above sections and within the Design and Access Statement.
07. Hot Meal Plan

The new Dining Hall and Kitchenette is part of the Hot Meal Plan by Northamptonshire County Council. Below find the School Meal Design Feasibility, Hot Meal Plan, dated 23rd February 2010:

Background

- Food Chain Solutions
  - Specialist catering and retail food consultancy
  - Working across both private and public sectors
  - e.g. Food Manufacturers, Government Office / Agencies and Local Authorities
  - Business consultancy, feasibility studies, project management, marketing and communications
  - Experienced in school meal design
  - LACA 2008 Education Catering Marketing Award - Winner in conjunction with North Lincolnshire Council
  - www.food-chain-solutions.co.uk
  - t: 01432 760573, m: 07748 326491

- Northamptonshire County Council
  Specialising in the development of new initiatives to achieve positive differences for children and young people
  Children and Young People’s Service,
  Student Services,
  Healthy Food and Drink Team
  John Dryden House,
  8 –10 The Lakes,
  Northampton,
  NN4 7DD
  Email: Studentservices@northamptonshire.gov.uk
  Website: www.studentservices@northamptonshire.gov.uk
  (01604) 236716 or (01604) 236289

- County Council - a total of 314 secondary, primary and special schools
  - 38 secondary schools
  - 264 primary schools
  - 12 special schools

- 54 schools with no meal provision
- 148 schools with delivered in sandwiches
- 96 schools with delivered in hot (of which 54 are in a central contract which ends in 2010)
- Over 30 different contractors, contributing to a varied provision across the County with differing standards, quality and content
Current Position
- Dec 2007 - take up of free & paid meals only 22% in primary and 35% in secondary (figures include 74% take up of free meals)
- Schools increasingly concerned about the quality of the meals being served
- £1m operating deficit (for the free school meal service)

Food Chain Solutions the brief
Commissioned December 2007 to work with Northamptonshire County Council:
- To provide a detailed assessment of the current school meal service
- To develop feasibility options and recommend a hot meal plan so that all schools are able to participate
- Design a sustainable school meal service for the future

The Forward Plan
Key elements of the forward plan
- Involves 225 schools across Northamptonshire
- Nature and geography of schools dictates 4 different methods of provision...

4 Provision Options
- Mini and Standard regeneration –156 schools
  Ideal for schools which have a small amount of internal space available or who have some space externally which can house a ‘pod’.
- DIH and DIH production hubs –34 < 6 schools
  Ideal for schools that have no internal or external space for kitchen equipment.
- Refurbishment –22 schools
  For 22 schools that have existing kitchens / equipment that need either full or part refurbishment. Meals cooked from scratch.
- No Investment – 7 schools
  - Schools with a recently refurbished kitchen -can still be part of the Centrally Managed Service.

Key deliverables vs. the brief
Financial
- Northamptonshire County Council secured external funding secured from the DCSF -up to £8.5m(subject to match-funding from schools).
- The capital work will be phased over 5 years starting April 2010with sufficient capital funding available to cover the annual capital set up costs totalling £13.2m.
- Using the same price of a meal as a comparison, the revenue generated by the new service will generate a surplus of over £1m per year, as opposed to a deficit of £1m currently operating (free school meal provision).
- Schools have the option of paying their contributions over 3 to 5 years.
- Payback between 10-15 years for equipment and infrastructure.
Consultation and Scrutiny

- The DCSF supported the proposal approving significant funding in October 2008 and again in November 2009.
- Schools Forum regularly consulted during the development of the plan.
- The consultation process -19th January to 31st May 2009. As part of the process schools consulted with their Governors, including parents.
- Over 80% of schools positively engaged.
- A sub-committee of the Schools Forum was involved to oversee the implementation of the plan and represent the interest of participating schools.
- The Leader of the Council was briefed on the 6th May 2009.
- The capital project was approved by CAIG on the 18th May 2009.
- Final Cabinet approval received September 2009.

Phased Implementation

<table>
<thead>
<tr>
<th>Phased Implementation of 225 schools</th>
<th>2010/11 - Yr1</th>
<th>2011/12 - Yr2</th>
<th>2012/13 - Yr3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools</td>
<td>115</td>
<td>64</td>
<td>46</td>
</tr>
</tbody>
</table>

- All relevant internal stakeholders engaged e.g. Building and Property Services, IT, HR, Procurement.
- Regular Project Board meetings led by a internal senior responsible officer and project managers, key deliverables, milestones, and risks being managed in accordance with the plan.

Benefits

Centrally managed schools service;

- Provides Northamptonshire schools and pupils with access to the provision of sustainable, affordable healthy & nutritious hot meals.
- Menu control, meal quality and consistency.
- Fully compliant with nutrient based standards.
- Accurate and reliable reporting of NI52.
- Legal and safe – fully compliant, providing the highest levels of food safety and security.
- Mix of provision facilities inclusion of all schools – lower cost options helps subsidise more expensive cost per meal options.
Job Ref: 4641

DESIGN AND ACCESS STATEMENT

Proposed School Hall and Ancillary Support Rooms

at

Rushton Primary School

Station Road,
Rushton,
Northants
NN14 1RL

Jan 2011
Ref: MC/4641/27649b/SB
DESIGN AND ACCESS STATEMENT

Content

01 Introduction
02 Supporting Drawings
03 Site Context
04 Use
05 Layout
06 Amount
07 Scale
08 Appearance
09 Landscaping / Trees
10 Access
11 Security
12 Construction
13 Conclusion
01. Introduction
Rushton Primary School is currently looking to extend their existing School facilities, which will involve providing a new School hall and ancillary support rooms.

ADDRESS
Rushton Primary School
Station Road,
Rushton,
Northants
NN14 1RL

02. Supporting Drawings
The proposal is as shown on the submitted drawings.
4641/01A Plan as Existing A3
4641/05E Site Layout Plan A1
4641/10B Plan as Proposed A1
4641/11F Elevation A1
4641/12A Site Location Plan A4
4508/SK01 Track Run Analysis

03. Site Context
The School is situated within the conservation area largely surrounded by single and two storey houses with pitched roofs.

The School buildings are both single and two storeys in height.

The School is neighbouring the single Storey Village Hall, which is located within 2m of the School boundary. The north orientated windows of the Village Hall are facing this boundary.

04. Use
The School currently hires the local village hall, which is located just south of the School playground. At present the local village hall is not adequate for the Schools use as the size of the hall cannot accommodate the Schools current intake of children and the facilities are in need of maintenance and upgrading.

After long term discussion between the Village Hall Trustees and the School to demolish the hall and rebuild, no agreement could be reached. The school therefore had no alternative other than propose a new hall on their site.

05. Layout
An initial briefing meeting was held with the School and Northamptonshire County Council to discuss the requirements. The outcome of this meeting was that a hall would need to accommodate approximate 100 pupils and will need to function as a dining and PE area. Ancillary rooms, which will be required to support these additional functions are a reheat kitchenette / servery, store rooms for PE & dining equipment & an additional WC. There is also a requirement to incorporate a small library and a storage area, which are currently provided by temporary buildings located by the playing/sports field and the playground area respectively.
The positioning has been carefully considered, as the School site is very limited. Using the Sports ground for the building was not acceptable to Sport England. The new School Hall building will therefore be located in the Southwest corner of the existing hard play area. The new Hall will be connected to the existing School building via a link building, which houses the SEN/Library and an access corridor.

The hard playground area lost to the new School hall will be replaced with a new hard play area located on part of the playing field. The football pitch will be repositioned/rotated to accommodate this.

06. Amount
The proposed extension totals 229m².

07. Scale
The scale of the extension proposal has been designed so that it sits comfortably within the context of the site, the adjacent School buildings and neighbouring properties. The overall size/height have been considered to offer the level of additional accommodation required by the School whilst fitting aesthetically within the surrounding built form.

The extension falls into 2 sections:

1. The link to the existing School – flat roof single storey 62m² incorporating the Library and ancillary rooms and storage to the Hall.
   
   The single storey on the West boundary has been designed as a lower section behind the existing boundary hedge to minimise the loss of light on the neighbouring garden.

2. The main Hall building – pitched roof single storey 167m² also incorporates the Kitchenette and External Store.

   To provide PE facilities, internal walls with a min height of 3.5m are required to install the PE equipment i.e. climbing frames. The eaves line has been set out to achieve this requirement.

   After consideration of the consultation comments and after discussion with the Planning Authority the roof pitch has been lowered to 35° to reduce the height of the proposal, whilst still being able to use the plain roof tiles to match previous school extensions. Neighbouring properties reflect varying pitches. The proposed extension will therefore preserve the character and appearance of the Conservation Area in accordance with PPS5.

   Taking comments into account received during the consultation period the proposed School Hall has been moved 1.84m away from the south boundary to lower any impact of light loss on the existing north facing windows of the Village Hall.

   Following discussion with the Planning Authority the roof pitch has been lowered to a minimum of 35°, which brings the ridge line very close to the existing School ridge and lower than any existing roof accessories i.e. chimneys, bell towers.

   The eaves height is determined by the use of the Hall for PE. It will allow climbing frames to be installed with sufficient headroom above.

08. Appearance
The appearance of the proposed extension has been designed to complement the existing School buildings. The proposal reflects features of the existing School building i.e. windows style and material. The gable elevation of 6 Station Road facing Chapel Lane is a simple elevation, and the proposal's elevation detailing is chosen to avoid competing with the decorative façade of the hall.
A red multi brick (facing on the external wall) will be used; this will match the previous extensions to the original School building in accordance with PPS 5 and Policy 13 of the North Northamptonshire Core Spatial Strategy.

Polyester powder coated aluminium, double-glazed windows and doors will match the existing School.

Grey flat roof coverings and terracotta coloured plain tiles to the pitched roof have been chosen, with velux rooflights to the vaulted ceilings within the main Hall.

The building is not directly facing the public road, and can only be observed above the adjoining garden and outbuilding of Chapel Lane. Whereas the proposed hard standing play area can only be observed from within the Schools ground.

09. Landscaping / Trees

To provide Rushton School with an adequate area of hard standing the grassed football pitch will be rotated and a new multi purpose hard play area will be constructed in the area indicated on the plan.

All damaged areas of grass will be re-turfed.

A track run analysis has been carried out of the junction between Station road and Chapel Lane. Based on this access via chapel Lane through the grassed playground area would be possible but might require pruning of trees: TE/5, TE/7 and TE/13. The potential impact can be seen on the attached drawing 4508-SK01.

Where works are carried out to the proposed disabled access path tree TE/1 will be protected during the construction period if required.

Trees TE/2, TE/3, TE/4 are very close to the proposed extension. TE/2 and TE/4 are mature conifers that will need to be taken down prior to commencement on site. TE/3 is an immature beech tree that will be taken down as detailed within the attached tree survey.

10. Access

No alteration will be made to the main School access route.

At present there is no permanent disabled access to the site. The scheme/proposal includes the modification of an existing path along the eastern flank of the existing School building to provide a permanent disabled access route. Due to the site constraints the modifications to create a new permanent disabled access will be limited and may not provide a fully DDA compliant access route.

11. Security

The proposed extension to the School will not negatively affect any security aspects to neither the School nor the neighbouring properties.

The new external door sets and windows installed in the building will be made secure to standards, independently certified, set out in BSI PAS 24 2007 ‘Doors for enhanced Security’ and BS 7950 1997 ‘Windows for enhanced security’.

Glazing will be two sheets of toughened laminated glass to a minimum thickness of 6.8mm or glass successfully tested to BS EN 356:2000 Glass in Building. Security glazing – resistance to manual attack to category P2A (or P3A from Jan 2011).

All external locks will be certified to BS 3621: 2007, BS 8621:2007 or BS 10621:2007 depending on the Schools requirement for the level of security offered from the internal face of the door.

The security alarm for the extension will be linked to the existing School intruder alarm system.
12. Construction

The attached drawing 4508-SK01 shows the proposed main delivery access to the construction site via Chapel Lane, which has been used during previous construction works.

Disruption will be kept to a minimum and no deliveries will be accepted to site during designated School start/finish period and other break times. Normal working hours will be implemented. Weekend construction is not envisaged to limit the impact on the local area.

The Contractor’s site and compound areas will be located within an agreed area with the School grounds. All Contractors traffic movements will be guided by a banksman. The Contractor will be required to control noise, dust, mud on roads, access etc. All to be finally determined and agreed between School, CDM Co-ordinator and Principal Contractor.

Safe access routes will be designated for building occupants in order that the daily running of the School operates without disruption.

13. Conclusion

The positioning and design of the building based on the client brief is to provide an assembly, PE and dining facility for a very popular village School. The options for the hall location realistically are limited to this position to protect the playing field.

Its function relies upon a reasonable eaves and ridge height with a roof pitch that has been lowered as far as possible, whilst still reflecting buildings within its surroundings. The only adjacent property that is affected by this proposal is the village hall where North facing windows are positioned within 2.0m of the School boundary.

The impact of the design and position of our building against the limited use of the village hall would have to be assessed against the long term viability of the School if our proposal is not acceptable.
Job Ref: 4641

DAYLIGHT REPORT

Proposed School Hall and Ancillary Support Rooms

at

Rushton Primary School

Station Road, Rushton, Northants NN14 1RL

Feb 2011
Ref.: SB/4641/27780a/SB
DAYLIGHT REPORT

Content

01 Introduction
02 Policy Guidelines
03 Method
04 Significant Criteria
05 Results
06 Conclusion

Appendies
01. Introduction

Planning permission is being sought for extending Rushton Primary School with a new school hall and ancillary support rooms.

Sursham Tompkins and Partners have been instructed to prepare a study to access the likely impact of the proposed extension on the natural daylight within the existing Village Hall.

This study is going to analyse the impact of the revised design of the proposed School Hall on the daylight levels of the existing Village Hall.

Additionally, the study will also compare the results with the previous proposal and the existing conditions.

A sunlight analysis has not been carried out as new proposal is only effecting the North facing windows of the existing Village Hall.


The result tables and drawings, which are attached at the rear, illustrate the results for the daylight assessments.

02. Policy Guidelines

This study has been carried out in accordance with the recommendations of the Building Research Establishment Report “Site Layout Planning for Daylight & Sunlight 1991”.

The Guide is intended for building designers and their clients, consultants and planning officials. The advice given is not mandatory and the Report should not be seen as a part of planning policy. Its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of the many factors in site layout design. In certain circumstances, the developer or planning authority may wish to use alternative target values.
Whilst technical analysis can be carried out in accordance with numerical guidelines and reported factually by comparison with those guidelines, the final assessment as to whether affected buildings are left with acceptable amounts of daylight and sunlight are to be interpreted in a flexible manner and is a matter of subjective opinion.

03. Method

The Daylight & Sunlight assessments have been undertaken by reference to the Building Research Establishment (BRE) Guidelines “Site Layout Planning for Daylight & Sunlight - A Guide to Good Practice”. This report sets out methodologies for analyzing sunlight and daylight levels in buildings and numerical guidelines for suggested standards.

The BRE Report advises that daylight and sunlight levels should be assessed for the main habitable rooms of neighbouring residential properties. Habitable rooms in residential properties are defined as kitchens, living rooms and dining rooms. Bedrooms are less important as they are mainly occupied at night time. The Report also makes reference to other property types, which may be regarded as “sensitive receptors” such as schools, hospitals, hotels and hostels, small workshops and most offices.

The BRE Guide states that:

“If, for any part of the new development, the angle from the centre of the lowest affected window to the head of the new development is more than 25°, then a more detailed check is needed to find the loss of skylight to the existing buildings.”

The BS 8206 states that:

“The average daylight factor is used as the measure of general illumination from skylight. It is considered good practice to ensure that rooms in dwellings and in most other buildings have a predominantly daylit appearance. In order to achieve this the average daylight factor should be at least 2%.

If the average daylight factor in a space is at least 5% then electric lighting is not normally needed during the daytime, provided the uniformity is satisfactory. If the average daylight factor in a space is between 2% and 5% supplementary electric lighting is usually required.”
The BRE Guidelines propose several methods for calculating daylight. The 3 main methods predominantly used are those involving the measurement of the total amount of skylight available:

- vertical sky component (VSC),
- Average Daylight Factor (ADF) and
- No Sky Line (NSL).

1. The VSC calculation is a general test of potential for daylight to a building, measuring the light available on the outside plane of windows.

2. The second recognised method of assessment for daylight is the Average Daylight Factor (ADF) calculation which assesses the quality and distribution of light within a room served by a window and takes into account the VSC value, the size and number of the windows and room and the use to which the room is put. The ADF is the effective proportion of sky visibility available as luminance within a room. Rather than simply assessing the external obstructions as seen from a window, as in the VSC analysis, the ADF calculation takes the external sky visibility and incorporates it within a calculation that takes account of window size, number of windows, internal room surface area, glass transmittance and internal surface reflectance.

Where the analysis shows that the VSC results show values outside the BRE standards, we would then analyse the ADF results and this has been provided for completeness.

The ADF is calculated using the following formula:

$$ D = \frac{A_g \, \theta T}{A(1-R^2)} $$

Where:
- $T$ is the diffuse visible transmittance of the glazing, including corrections for dirt on glass and any blinds or curtains. (For clean clear single glass, a value of 0.8 can be used)
- $A_g$ is the net glazed area of the window (m²)
- $A$ is the total area of the room surfaces: ceiling, floor, walls, doors and windows (m²)
- $R$ is their average reflectance. For fairly light-coloured rooms a value of 0.5 can be taken
- $\theta$ is the angle of visible sky in degrees derived from the vertical sky component
3. The third recognised assessment method is the No Sky Line (NSL) this measures the amount of light that falls on the “working plane” within a room such as desks and worktops at a level of 850mm. The light penetration through the window apertures is calculated for the existing scenario creating an existing contour; the same is applied for the proposed extension creating a proposed contour. Providing the reduction in light from the proposed contour area to existing contour area is within 20% of existing figure it will meet BRE guidelines.

The ADF assesses actual light distribution within defined room areas, whereas the VSC considers potential light. British Standard 8206, Code of Practice for Daylighting recommends ADF values of 1% in bedrooms, 1.5% in living rooms and 2% in kitchens. For other uses, where it is expected that supplementary electric lighting will be used throughout the daytime, such as in offices, the ADF value should be 2%. There is no general requirement within the BRE Guidelines to assess ADF values, other than for neighbouring residential buildings. The Average Daylight Factor is more reliable than the first two diffuse daylight tests. This is because the Average Daylight Factor test takes into account a range of variables, which the other tests do not. For example, only the Average Daylight Factor test takes into account the size of the window and whether the room has more than one window. These are important factors, which affect the level of illumination within a room.

At the time of the assessment, detailed information about dimensions and finishes of the Village Hall have been taken from topographical surveys and photos.

The daylight assessment has been undertaken using the ADF calculation method. All relevant windows have been considered for each of these methods.

Certain constants were assumed in the formula, which are as follows:

The diffuse light transmittance of glazing was 0.8, which is the value for single glazing unit and a 5% reduction for normal cleaning standards in an non residential setting has been applied. This gives a total diffuse light transmittance of 0.76.

The reflectance of interior surfaces were taken according to the current finishes i.e. dark timber ceiling, dark low-level wall paneling, mid reflectance for walls and mid dark floor finish. For detailed values assumed please refer to the attached calculation sheet.
04. Significant Criteria

In describing the significance criteria as set out below, it should be noted that they have been developed to protect residential properties, which are the most sensitive receptors.

The Guidance given by BRE has been used as a basis for the criteria to assess the Extension’s potential impacts. The BRE guidance specifies:

“…In special circumstances the developer or planning authority may wish to use different target values. For example, in an historic city centre a higher degree of obstruction may be unavoidable…”

The report adds:

“…Different criteria may be used, based on the requirements for daylighting in an area viewed against other site layout constraints.”

In consideration of the above, it is important to note that the Site is located in a village centre that, in parts, currently experiences daylight levels below the BRE recommendations. Thus, in these instances the BRE guidance states that the:

“…guidelines should be applied sensibly and flexibly”.

Under these circumstances, the less stringent, higher BRE target percentage loss values and significance criteria may be justifiable.

The BRE guidelines are summerised below and this has been used as the basics for the criteria used in the assessment of daylight impacts:

A window may be adversely affected if the vertical sky component (VSC) measured at the center of the window is less than 27% and less than 0.8 times its former value.

A room may be adversely affected if the average daylight factor (ADF) is less than 1% for a bedroom, 1.5% for a living room or 2% for a kitchen. For offices a minimum figure of 2% is required.

A window may be adversely affected if the No Sky Line (NSL) measured at the working plane of the room is less than 80% or less than 0.8 times its former value.
The BRE guidance has been used to generate significance criteria that have been used to assess the impact of the proposed extension.

For VSC, they are:
- Windows experiencing less than 20% reduction represent negligible to minor beneficial impacts;
- Windows experiencing between 20 and 29.9% reduction represent minor adverse impacts;
- Windows experiencing between 30 and 39.9% reduction represent moderate adverse impacts; and
- Windows experiencing greater than 40% reduction represents substantial adverse impacts.

For ADF criteria, they are:
- Greater than 1.5% represents minor beneficial impacts;
- 1.0 - 1.49% represents negligible to minor adverse impacts;
- 0.5 - 0.99% represents minor adverse to moderate adverse impacts; and
- Less than 0.49% represents substantial adverse impacts.

Criteria figures for ADF will differ depending on room use.

For NSL criteria, they are, for all Rooms:
- Percentage difference less than 20% represents negligible impacts;
- Less than 30% represents minor adverse impacts;
- Less than 40% represents minor adverse to moderate adverse impacts; and
- More than 40% represents substantial adverse impacts.

05. Results

We have tested all North facing windows, which are located on the ground floor of the Village Hall. The South and West facing windows have been taken into account for the ADF test.

25° rule:
The results of the 25° rule are shown in Appendix A – drawing 4641/D01, which shows that windows N1 and N2 of the Village Hall comply with the rule and the angle for windows N3-N6 will be more than 25°. Therefore the following tests have been undertaken.
VSC:
The results of the Vertical Sky Component (VSC) analysis on the relevant Village Hall windows are presented in table 1 below. The full results of the daylight analysis are presented in Appendix B in tabular form and drawing 4641/D02.

TABLE 1: Number of windows Experiencing Negligible and Adverse Daylight Impacts as a Result of the proposed Extension (VSC Method)

<table>
<thead>
<tr>
<th>Address</th>
<th>Total number of Windows Tested</th>
<th>Windows meeting BRE Guidelines for VSC &gt;27%</th>
<th>Number of Windows Experiencing Adverse Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number of Windows meeting BRE Guidelines</td>
<td>&lt;20% reduction (negligible impact)</td>
</tr>
<tr>
<td>Village Hall North Facing Windows</td>
<td>6</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 1 indicates that of the 6 windows affected and assessed 2 of the windows assessed will fully comply with the BRE recommendations for VSC while 4 windows will experience a moderate adverse impact. Nevertheless the average potential lighting on the outside face of the North facing window glazing is on the borderline of the recommended 27% VSC figure. However, the Village Hall main room and windows still achieve excellent levels of light and the room exceeds the BRE standard of 2% under the ADF test.

ADF:
The results of the ADF analysis on the Village Hall are presented in the Tables 2. The full results of the daylight analysis are presented in Appendix C in tabular form with a drawing 4641/D03.

TABLE 2: Number of Rooms Experiencing Negligible and Adverse Daylight Impacts as a Result of the Development (ADF Method)

<table>
<thead>
<tr>
<th>Address</th>
<th>Total number of rooms Tested</th>
<th>Rooms meeting BRE Guidelines for ADF &gt;2% (minor beneficial impacts)</th>
<th>Number of Rooms Experiencing Adverse Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1.30 - 1.99% represents negligible to minor adverse impacts</td>
<td>0.66 – 1.29% represents minor adverse to moderate adverse impacts</td>
</tr>
<tr>
<td>Village Hall</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2 indicates that the room assessed will fully comply with target values set by the BRE guidance for Average Daylight Factor assessment. The proposed ADF is within 7% of the existing ADF and therefore the effect is considered to be negligible.
As the results show the Village Hall comfortably pass the ADF study and this gives a good indication that the Village Hall as a whole still exceeds the user requirements.

NSL:
The results of the NSL analysis on the relevant overlooking rooms are presented in the Table 3 below. The full results of the daylight analysis are presented in Appendix D in drawing form 4641/D04.

**TABLE 3: Number of Rooms Experiencing Negligible and Adverse Daylight Impacts as a Result of the Development (NSL Method)**

<table>
<thead>
<tr>
<th>Address</th>
<th>Total number of Rooms Tested</th>
<th>Number of Rooms Experiencing Adverse Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>&lt;20% reduction (negligible impact)</td>
</tr>
<tr>
<td>Village Hall</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 3 indicates that the Village Hall will meet BRE guidelines for No Sky Line with a reduction of 10% compared to the existing condition. This reduction is above 1.9m and therefore negligible.

06. Conclusion

The proposed School Hall is situated in a village center and is in close proximity to the adjacent Village Hall at the South. The existing site is generally of low level, allowing exceptional levels of natural light to reach the majority of adjacent Village Hall North elevations.

This study uses the BRE Site Layout Planning for Daylight & Sunlight 1991, a guide to good practice and BS 8206:2. This are the most recognised form of Daylight & Sunlight standard in the UK.

To assess the proposed extensions’s potential impact on daylight on the Village Hall a baseline assessment was undertaken. The main methods of assessment included the Vertical Sky Component (VSC), Average Daylight Factor (ADF) for daylight analysis.

The VSC daylight analysis indicates that there will be windows that will be affected by the new School Hall proposals. The effect is mitigated by the results of the ADF analysis, which indicated that the Village Hall will remain adequately lit. If the BRE standards are applied flexibly considering the village center location the results are considered to be acceptable.
An ADF assessment was carried out on the proposed scheme the previous scheme and the existing conditions. The results showed that the Village hall room tested passed ADF criteria.

The No Sky Line results show that the room assessed will be left with a view of the sky from every point in the room looking one way or the other. The area of sky line lost will be above 1.9m and therefore not affecting the users inside the hall.

Generally the scheme is considered to have a predominately negligible impact when measured against the significance criteria of Average Daylight Factor and No Sky Line method for daylight assessment.

The scheme is also considered to fully comply with the sunlight criteria since all Village Hall windows affected by the new extension are North facing and therefore not considered to have any sunlight loss.

Overall, the analysis undertaken demonstrates that given the approach recommended by the BRE guidelines, the impact of the proposed extension will generally create a negligible impact on the adjacent to the school site and is considered to be acceptable in daylight and sunlight standards on the Village Hall given this village center location.
Disclaimers

None of the guidelines here is intended to replace, or be a means of satisfying, the legal requirements contained in rights to light law.

The report is produced solely for the use of the client and no liability to anyone else is accepted.

Formulae are based on information from the BRE guidelines.

Reasonable assumptions have been made regarding the Village Hall.

Best endeavours have been used to ensure that the facts stated in the report are correct.
Appendix A

25° rule
West Elevation
scale 1:100

THE CONTRACTOR IS TO CHECK AND VERIFY ALL BUILDING AND SITE DIMENSIONS, LEVELS AND SEWER INVERT LEVELS AT CONNECTION POINTS BEFORE WORK STARTS.

THIS DRAWING MUST BE READ WITH AND CHECKED AGAINST ANY STRUCTURAL OR OTHER SPECIALIST DRAWINGS PROVIDED.

ANY DISCREPANCY BETWEEN ISSUED DRAWINGS TO BE REPORTED TO THIS PRACTICE AND VERIFIED BEFORE WORKS STARTS.

© THIS DRAWING AND THE BUILDING WORKS DEPICTED ARE THE COPYRIGHT OF THIS PRACTICE AND MAY NOT BE REPRODUCED EXCEPT BY WRITTEN PERMISSION.
Appendix B

Vertical Sky Component (VSC)

**Table 4: VSC for Village Hall windows with new proposal**

<table>
<thead>
<tr>
<th>Window</th>
<th>plan angle 1</th>
<th>plan angle 2</th>
<th>elevation angle</th>
<th>VSC</th>
<th>Compared to BRE Standard of &gt;27%</th>
</tr>
</thead>
<tbody>
<tr>
<td>window N1</td>
<td>-16.60°</td>
<td>77.40°</td>
<td>18.50°</td>
<td>33.75%</td>
<td>&gt; 27%</td>
</tr>
<tr>
<td>window N2</td>
<td>-33.30°</td>
<td>76.40°</td>
<td>18.50°</td>
<td>32.43%</td>
<td>&gt; 27%</td>
</tr>
<tr>
<td>window N3</td>
<td>-51.20°</td>
<td>74.30°</td>
<td>33.00°</td>
<td>23.63%</td>
<td>&lt; 27%</td>
</tr>
<tr>
<td>window N4</td>
<td>-58.10°</td>
<td>72.70°</td>
<td>33.00°</td>
<td>23.61%</td>
<td>&lt; 27%</td>
</tr>
<tr>
<td>window N5</td>
<td>-65.40°</td>
<td>69.10°</td>
<td>33.00°</td>
<td>22.97%</td>
<td>&lt; 27%</td>
</tr>
<tr>
<td>window N6</td>
<td>-68.60°</td>
<td>66.20°</td>
<td>33.00°</td>
<td>22.96%</td>
<td>&lt; 27%</td>
</tr>
</tbody>
</table>

average VSC for North windows with new proposal: 26.6%

**Table 5: VSC for Village Hall windows with new proposal**

<table>
<thead>
<tr>
<th>Window</th>
<th>plan angle 1</th>
<th>plan angle 2</th>
<th>elevation angle</th>
<th>VSC</th>
<th>impact between proposed and ex</th>
</tr>
</thead>
<tbody>
<tr>
<td>window N1</td>
<td>-2.80°</td>
<td>34.50°</td>
<td>7.70°</td>
<td>38.42%</td>
<td>12.2%  minor beneficial</td>
</tr>
<tr>
<td>window N2</td>
<td>-6.20°</td>
<td>32.00°</td>
<td>10.00°</td>
<td>37.93%</td>
<td>14.5%  minor beneficial</td>
</tr>
<tr>
<td>window N3</td>
<td>-11.60°</td>
<td>27.70°</td>
<td>10.00°</td>
<td>37.83%</td>
<td>37.5%  moderate adverse</td>
</tr>
<tr>
<td>window N4</td>
<td>-14.80°</td>
<td>24.80°</td>
<td>12.00°</td>
<td>37.39%</td>
<td>36.9%  moderate adverse</td>
</tr>
<tr>
<td>window N5</td>
<td>-19.80°</td>
<td>19.90°</td>
<td>16.00°</td>
<td>36.48%</td>
<td>37.0%  moderate adverse</td>
</tr>
<tr>
<td>window N6</td>
<td>-22.80°</td>
<td>16.60°</td>
<td>16.00°</td>
<td>36.51%</td>
<td>37.1%  moderate adverse</td>
</tr>
</tbody>
</table>

average VSC for North windows as existing: 37.4%

average impact of proposed extension compared to existing condition 29.0% minor adverse
West Elevation

scale 1:100

THE CONTRACTOR IS TO CHECK AND VERIFY ALL BUILDING AND SITE DIMENSIONS, LEVELS AND SEWER INVERT LEVELS AT CONNECTION POINTS BEFORE WORK STARTS.

THIS DRAWING MUST BE READ WITH AND CHECKED AGAINST ANY STRUCTURAL OR OTHER SPECIALIST DRAWINGS PROVIDED.

ANY DISCREPANCY BETWEEN ISSUED DRAWINGS TO BE REPORTED TO THIS PRACTICE AND VERIFIED BEFORE WORKS STARTS.

© THIS DRAWING AND THE BUILDING WORKS DEPICTED ARE THE COPYRIGHT OF THIS PRACTICE AND MAY NOT BE REPRODUCED EXCEPT BY WRITTEN PERMISSION.
Appendix C

Average Daylight Factor (ADF)

\[ \bar{D} = \frac{A_g \theta T}{A(1 - R^2)} \]

\(\bar{D}\) average daylight factor
\(U\) angle of visible sky, measured in section from the centre of the window opening in the pane of the inside window wall
\(T\) diffuse transmittance of the glazing, including corrections for dirt on glass and any blinds or curtains
single glazed - 5% dirt = 0.76
\(A_g\) net glazed area of the windows
\(A\) total area of the room surfaces: ceiling, floor, walls, doors, and windows (m²)
\(L R V\) Light Reflectance Value
\(R\) average reflectance of enclosing room surfaces

Table 6: Village Hall Room Area and Light reflectance level:

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>LRV</th>
<th>R</th>
<th>Ag in % of total Ag</th>
</tr>
</thead>
<tbody>
<tr>
<td>ceiling:</td>
<td>2*(3.2m*9.8m) = 62.72 m²</td>
<td>8</td>
<td>8%</td>
<td>29.71%</td>
</tr>
<tr>
<td>low wall:</td>
<td>(9.8m+9.8m+6.5m)*1.53m = 39.93 m²</td>
<td>8</td>
<td>8%</td>
<td>18.91%</td>
</tr>
<tr>
<td>high wall:</td>
<td>(9.8m+9.8m)<em>2.3m-(9</em>0.91m²) = 36.89 m²</td>
<td>38</td>
<td>38%</td>
<td>17.47%</td>
</tr>
<tr>
<td>gable E:</td>
<td>26.7m² = 26.70 m²</td>
<td>59</td>
<td>59%</td>
<td>12.65%</td>
</tr>
<tr>
<td>gable W:</td>
<td>36.7m²-window(1.6m<em>0.78m</em>3.8m) = 31.96 m²</td>
<td>59</td>
<td>59%</td>
<td>15.14%</td>
</tr>
<tr>
<td>windows N:</td>
<td>0.91m²*6 = 5.46m²</td>
<td>24</td>
<td>24%</td>
<td>2.59%</td>
</tr>
<tr>
<td>window W:</td>
<td>1.6m<em>0.78m</em>3.8 = 4.74 m²</td>
<td>24</td>
<td>24%</td>
<td>2.25%</td>
</tr>
<tr>
<td>windows S:</td>
<td>0.91m²*3 = 2.73 m²</td>
<td>24</td>
<td>24%</td>
<td>1.29%</td>
</tr>
<tr>
<td>A total:</td>
<td>Atotal = 211.13 m²</td>
<td>28.39%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

Table 7: Calculation of ADF for the Village Hall with the new School Hall positioned approx 3.4m away from the Village Hall:

<table>
<thead>
<tr>
<th></th>
<th>Ag</th>
<th>T</th>
<th>Θ</th>
<th>Ag in % of total Ag</th>
</tr>
</thead>
<tbody>
<tr>
<td>windows N1:</td>
<td>0.91 m²</td>
<td>0.76</td>
<td>50</td>
<td>7.04%</td>
</tr>
<tr>
<td>window N2-6:</td>
<td>4.55 m²</td>
<td>0.76</td>
<td>65</td>
<td>35.18%</td>
</tr>
<tr>
<td>window W:</td>
<td>4.74 m²</td>
<td>0.76</td>
<td>83</td>
<td>36.67%</td>
</tr>
<tr>
<td>Windows S:</td>
<td>2.73 m²</td>
<td>0.76</td>
<td>83</td>
<td>21.11%</td>
</tr>
<tr>
<td>total Ag</td>
<td>12.93 m²</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(D_{scheme} = \frac{3.76}{2}\% > 2\% \) BRE standard
Table 8: Calculation of ADF for the Village Hall with the new School Hall positioned approx 2.2m away from the Village Hall:

<table>
<thead>
<tr>
<th></th>
<th>Ag</th>
<th>T</th>
<th>Θ</th>
<th>Ag in % of total Ag</th>
</tr>
</thead>
<tbody>
<tr>
<td>windows N1:</td>
<td>0.91</td>
<td>0.76</td>
<td>38</td>
<td>7.04%</td>
</tr>
<tr>
<td>window N2-6:</td>
<td>4.55</td>
<td>0.76</td>
<td>57</td>
<td>35.18%</td>
</tr>
<tr>
<td>window W:</td>
<td>4.74</td>
<td>0.76</td>
<td>83</td>
<td>36.67%</td>
</tr>
<tr>
<td>Windows S:</td>
<td>2.73</td>
<td>0.76</td>
<td>83</td>
<td>21.11%</td>
</tr>
<tr>
<td>total Ag</td>
<td>12.93</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ D_{\text{previous}} = 3.29\% > 2\% \text{ BRE standard} \]

Table 9: Calculation of average daylight factor for the Village Hall as existing:

<table>
<thead>
<tr>
<th></th>
<th>Ag</th>
<th>T</th>
<th>Θ</th>
<th>Ag in % of total Ag</th>
</tr>
</thead>
<tbody>
<tr>
<td>windows N:</td>
<td>5.46</td>
<td>0.76</td>
<td>75</td>
<td>42.22%</td>
</tr>
<tr>
<td>window W:</td>
<td>4.74</td>
<td>0.76</td>
<td>83</td>
<td>36.67%</td>
</tr>
<tr>
<td>Windows S:</td>
<td>2.73</td>
<td>0.76</td>
<td>83</td>
<td>21.11%</td>
</tr>
<tr>
<td>total Ag</td>
<td>12.93</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ D_{\text{existing}} = 4.03\% > 2\% \text{ BRE standard} \]
The contractor is to check and verify all dimensions, level and sewer invert levels at connection points before work starts.

This drawing must be read with and checked against any structural or other specialist drawings provided.

Any discrepancy between issued drawings to be reported to this practice and verified before works start.

© This drawing and the building works depicted are the copyright of this practice and may not be reproduced except by written permission.

Proposed New Hall at Rushton Primary School for NCC

Average Daylight Factor

Jan 2011 1:100 @ A2 SB MRC

4641/D03

Proposed

Average Daylight Factor

Referring to existing scenario

Referring to proposed scheme

Referring to previous proposed scheme

West Elevation

scale 1:100
Appendix D

No Sky Line (NSL)
Sectional area of existing view of sky: 19.6m²
Sectional area of proposed view of sky: 17.6m²
Which represents a 10% reduction of view of sky, but this is above 1.9m and therefore negligible.
TREE SURVEY REPORT

PRE-DEVELOPMENT TREE SURVEY IN SUPPORT OF PLANNING APPLICATION

R. Yates
December 2010

SITE: Rushton Primary School, Rushton, Northants

CLIENT: NCC (Bovis Lend Lease)
CONTENTS:

1.0 Terms of Reference
2.0 Survey Methodology
3.0 Site Overview
4.0 Summary of Findings & Conclusions
5.0 Recommendations
6.0 Statutory Obligations

Appendices:
1. Survey Schedule
2. Drawing – Tree Constraints Plan
3. Table 1 B.S.5837
1.0 Terms of Reference

1.1 We are instructed by Martin Kirk, on behalf of Bovis Lend Lease, to undertake a pre-development tree survey at Rushton Primary School, which is to be in line with B.S. 5837 : 2005 ‘Trees in Relation to Construction - Recommendations’.

1.2 All trees have been inspected from ground level only. Should further more detailed inspection be deemed appropriate, this will be covered under Recommendations. Trees are dynamic living organisms, whose health and condition can be subject to rapid change, depending on a number of external and internal factors. The conclusions and recommendations contained in this report relate to the trees at the time of inspection.

1.3 This survey and report has been completed by Robert C Yates, who holds the Arboricultural Association Technician’s Certificate and the LANTRA award in Professional Tree Inspection. He is also a professional member of the Consulting Arborist Society and the Arboricultural Association.

1.4 This report, its appendices and any subsequent revisions thereof, will form part of any formal planning application in respect of the development of this site, and as such will be open to public scrutiny and comment.

2.0 Survey Methodology

2.1 The trees have been assessed using the current recommendations, as detailed in British Standard 5837 : 2005 ‘Trees in relation to Construction – Recommendations’, in order to arrive at a Retention Category for each individual tree or group of trees. A Root Protection Area (RPA) has been assigned to each tree, based on its stem diameter and in some cases crown spread, which has then been used to produce the Tree Constraints Plan (attached as appendix 2). For full details of the relevant assessment criteria and retention categories see Table 1 of B.S. 5837 (attached as appendix 3).

2.2 All individual trees and groups have been given a notional identification i.e. TE/1 – TE/25. All collected survey data and work recommendations for all trees is presented in the survey schedule which forms appendix 1 to this report. For the location of trees see appendix 2 (Tree Constraints Plan).
3.0 Site Overview

3.1 The survey area comprises the grounds surrounding the School buildings, as denoted on the topographical survey drawing supplied to us by the client.

3.2 The development proposal briefly comprises; the erection of a school hall on the site of the existing playground to the rear. Access for construction and delivery vehicles during the project will be via Chapel Lane to the west of the site using the existing field entrance which is to be widened.

4.0 Summary of Findings & Conclusions

4.1 A total of 17no. individual trees and 1no. group of trees have been surveyed. A breakdown of the numbers of trees in each retention category can be seen in the table below:

<table>
<thead>
<tr>
<th>Retention Category</th>
<th>Individual Trees</th>
<th>Groups of Trees</th>
<th>Hedgerows</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
<td>1</td>
<td>n/a</td>
</tr>
<tr>
<td>B</td>
<td>11</td>
<td>0</td>
<td>n/a</td>
</tr>
<tr>
<td>C</td>
<td>5</td>
<td>0</td>
<td>n/a</td>
</tr>
<tr>
<td>R (remove)</td>
<td>1</td>
<td>0</td>
<td>n/a</td>
</tr>
<tr>
<td>Totals</td>
<td>17</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
4.1 All R Category trees should be removed for reasons of sound arboricultural practice or health and safety, irrespective of any development proposals. (There is only one such tree within the survey area; TE/6).

4.2 As regards the C category trees; under normal circumstances these would not normally be retained in a development context, unless in such a location that they do not represent a significant constraint on the development proposal – See relevant note at foot of Table 1 B.S.5837 (attached as appendix 3). (There are five such trees within the survey area, one of which (TE/3) will definitely require removal in order to facilitate the construction works).

4.3 All A & B Category trees will, under normal circumstances, be retained on development sites, and should influence and inform the design, site layout, and in some cases the specific construction methods to be used – The root protection areas of these trees will generally form a construction exclusion zone, though under certain circumstances it may be possible to build or operate within these areas providing that appropriate specifications and methods have been agreed between the local authority planning department, the consulting arboriculturist and the developer/contractor. (There are a total of two B category trees that will definitely require removal in order to facilitate the construction works; TE/2 & TE/4).

4.4 The retained trees that are likely to pose a significant constraint on the development are: TE/5, TE/8, TE/10, all of which are located adjacent to the field entrance. The crowns and/or root protection areas of these trees will severely constrain access to the site unless appropriate measures are taken to protect them from damage – See recommendations.

5.0 Recommendations

5.1 All trees that have been selected for retention should receive such remedial works as recommended in Appendix 1 to this report, and furthermore; should be suitably protected with appropriate temporary fencing for the duration of the construction phase of the development (exact specifications for which will depend on the degree and nature of the proposed development in any specific area of the site). Whilst broad recommendations for protective fencing and other tree protection measures, can be obtained from British Standard 5837 : 2005, we would specifically recommend that a minimum 2.0m high Heras® type fence is erected in the locations indicated on the tree constraints plan, and maintained for the duration of the construction and external works. In addition a section of the ‘track run’ extending from the existing field entrance for at least 8 metres, must be protected with heavy-duty track mats in order to protect the underlying tree roots from damage. The fencing and ground protection should be installed prior to commencement of any enabling works on site, other than tree pruning, and should be erected in such a way that lateral movement resulting from construction vehicle impacts can be withstood i.e. diagonal bracing with ground anchors at regular intervals (suggested locations for such fencing have been indicated on the tree constraints plan, though this may have to be modified according to which trees are ultimately retained or removed)
5.2 Those trees in the R Category (along with those in higher categories that cannot be usefully retained) should be removed prior to commencement of any demolition or construction works i.e. TE/2, TE/3, TE/4 & TE/6.

5.3 All tree works must only be carried out by suitably qualified and experienced contractors, and should conform to guidelines set out in British Standard 3998 : 1989 (Recommendations for Tree work)* and in accordance with other relevant industry best practice.

* At the time of writing, British Standard 3998 is under review. The new revised (& improved) standard should be operational by early 2011.

6.0 Statutory Obligations

- Work on trees which are covered by Tree Preservation Orders [TPO's] or are within a Conservation Area [CA] require permission or consent from your Local Planning Authority [LPA]. It is necessary to gain confirmation from the LPA of any TPO’s or CA’s on the site, and to follow the necessary application procedure if tree surgery or indeed felling, is required in respect of protected trees. Full planning consent will however, override the need for a separate application, providing that details of all tree works were included in the submission and subsequently approved by the local authority.

- It is a criminal offence under normal circumstances to disturb or destroy - whether intentional or unintentional - the nesting sites of wild birds or the roost sites of bats, under the ‘Wildlife & Countryside Act 1981 and the ‘Countryside and Rights of Way Act 2000'.

Therefore, avoid carrying out tree works in the bird nesting season [mid-March to mid July] and ensure that trees are professionally surveyed for signs of bat roosts and/or bat activity before starting any tree work. ‘Natural England’ or the Bat Conservation Trust can give further advice on such matters.
**TREE SURVEY SCHEDULE**  
Appendix 1 to Report

**KEY TO SURVEY CRITERIA & HEADINGS :**

<table>
<thead>
<tr>
<th>Headings</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tree No.</td>
<td>Notional ID given to each tree or group of trees (unless tagged)</td>
</tr>
<tr>
<td>Species</td>
<td>Botanical name with common name in brackets</td>
</tr>
</tbody>
</table>
| Age Class                 | Young trees (Y) – less than 1/3 life expectancy  
Middle-aged trees (m/aged) – 1/3 – 2/3 life expectancy  
Mature trees (M) – over 2/3 life expectancy  
(Over-mature – beyond usually expected life) |
| Height                    | Estimated in metres                                                                                                                          |
| Crown Spread              | Crown spread (North / South / East / West ) measured from centre of trunk, in metres                                                        |
| Crown clearance           | Approximate height between lowest branch and ground level (metres)                                                                            |
| Stem dia.                 | Trunk diameter (mm) measured at 1.5m above ground level, or ground level (gl), if multi-stem                                                |
| Vigour                    | Objective assessment of a tree’s vigour (normal or low)                                                                                       |
| Amenity                   | Subjective assessment of a tree’s contribution to the amenity value of the area: High to Low                                                |
| Condition                 | Good, Fair or Poor, based on the general health and structural condition of the tree                                                        |
| Recommendations           | Remedial works in order to facilitate retention, or recommendation to remove                                                                  |
| Ret.Cat.                  | Based on B.S.5837 Retention categories:  
A = Those of High Quality & Value  
B = Those of Moderate Quality & Value  
C = Those of Low Quality & Value  
(Sub categories 1,2,3 in brackets)  
R = Remove (or Fell) |
<p>| RPA                       | Root Protection Area, measured in metres from centre of tree, or may be expressed in m3                                                        |</p>
<table>
<thead>
<tr>
<th>Tree No.</th>
<th>Species (common name)</th>
<th>Age class</th>
<th>height</th>
<th>N</th>
<th>E</th>
<th>S</th>
<th>W</th>
<th>crown clearance</th>
<th>stem dia.</th>
<th>vigour</th>
<th>amenity</th>
<th>Condition / Comments</th>
<th>Recommendations</th>
<th>Ret. Cat.</th>
<th>(sub cat.)</th>
<th>RPA(m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TE/1</td>
<td>Chamaecyparis lawsoniana [lawson cypress]</td>
<td>middle-aged</td>
<td>4.5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1.5</td>
<td>300gl</td>
<td>normal</td>
<td>low</td>
<td>Fair - previously reduced</td>
<td>no works required</td>
<td>C [2]</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>TE/2</td>
<td>Cupressocyparis leylandii [leyland cypress]</td>
<td>mature</td>
<td>15</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>400</td>
<td>normal</td>
<td>high</td>
<td>Good/fair - close to existing buildings &amp; proposed development works</td>
<td>Remove to facilitate development</td>
<td>B [2]</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>TE/3</td>
<td>Sorbus aucuparia [rowan]</td>
<td>middle-aged</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>180</td>
<td>normal</td>
<td>low</td>
<td>Fair - slight stem &amp; crown damage / close to existing buildings &amp; proposed development works</td>
<td>Remove to facilitate development</td>
<td>C [2]</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>TE/4</td>
<td>Cupressocyparis leylandii [leyland cypress]</td>
<td>mature</td>
<td>13</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>400</td>
<td>normal</td>
<td>moderate/ high</td>
<td>Good/fair - close to existing buildings &amp; proposed development works</td>
<td>Remove to facilitate development</td>
<td>B [2]</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>TE/5</td>
<td>Fagus sylvatica [common beech]</td>
<td>young</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2.5</td>
<td>210</td>
<td>normal</td>
<td>low</td>
<td>Good/fair - one broken branch stub north side</td>
<td>crown lift to 4m over proposed track run / remove broken branch stub</td>
<td>B [2]</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>TE/6</td>
<td>Alnus cordata [Italian alder]</td>
<td>young</td>
<td>5</td>
<td>0</td>
<td>3</td>
<td>1.5</td>
<td>0.5</td>
<td>2.5</td>
<td>120</td>
<td>low</td>
<td>low</td>
<td>Poor - biased crown with pronounced die-back</td>
<td>REMOVE</td>
<td>R</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>TE/7</td>
<td>Betula pendula [silver birch]</td>
<td>mature</td>
<td>12</td>
<td>3</td>
<td>4.5</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>250</td>
<td>normal</td>
<td>moderate</td>
<td>Good</td>
<td>no works required</td>
<td>B [2]</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>TE/8</td>
<td>Populus alba 'Pyrimidalis' [fastigate white poplar]</td>
<td>middle-aged</td>
<td>17</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>n/a</td>
<td>300</td>
<td>normal</td>
<td>moderate</td>
<td>Good</td>
<td>crown lift to 4m over proposed track run</td>
<td>B [2]</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>TE/9</td>
<td>Alnus cordata [Italian alder]</td>
<td>mature</td>
<td>8</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>1.5</td>
<td>260</td>
<td>normal</td>
<td>low</td>
<td>Good/fair</td>
<td>no works required</td>
<td>B [2]</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>TE/10</td>
<td>Sorbus aucuparia [rowan]</td>
<td>mature</td>
<td>7</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>2.5</td>
<td>2.5</td>
<td>180</td>
<td>normal</td>
<td>low</td>
<td>Good/fair</td>
<td>crown lift to 4m over proposed track run</td>
<td>B [2]</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>TE/11</td>
<td>Sorbus aucuparia [rowan]</td>
<td>young</td>
<td>4.5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>80</td>
<td>normal</td>
<td>low</td>
<td>Good/fair</td>
<td>no works required</td>
<td>C [2]</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>TE/12</td>
<td>Salix caprea [goat willow]</td>
<td>young</td>
<td>4.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1</td>
<td>150gl</td>
<td>normal</td>
<td>low</td>
<td>Good/fair</td>
<td>no works required</td>
<td>B [2]</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TE/13</td>
<td>Aesculus hippocastanum [horse chestnut]</td>
<td>young</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>300gl</td>
<td>normal</td>
<td>low</td>
<td>Good/fair - twin stems from ground level</td>
<td>no works required</td>
<td>B [2]</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>TE/14</td>
<td>Betula pendula [silver birch]</td>
<td>mature</td>
<td>13</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>1.5</td>
<td>230</td>
<td>normal</td>
<td>moderate</td>
<td>Good</td>
<td>no works required</td>
<td>B [2]</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>TE/15</td>
<td>Betula pendula [silver birch]</td>
<td>mature</td>
<td>13</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>1.5</td>
<td>230</td>
<td>normal</td>
<td>moderate</td>
<td>Good</td>
<td>no works required</td>
<td>B [2]</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>TE/18</td>
<td>Quercus robur [English oak]</td>
<td>young</td>
<td>3.5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>1</td>
<td>150gl</td>
<td>normal</td>
<td>low</td>
<td>Fair - poor form</td>
<td>no works required</td>
<td>C [2]</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>TE/19</td>
<td>Picea abies [Norway spruce]</td>
<td>young</td>
<td>4.5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>100</td>
<td>normal</td>
<td>low</td>
<td>Good</td>
<td>no works required</td>
<td>C [2]</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>TE/20</td>
<td>Betula pendula [silver birch]</td>
<td>mature</td>
<td>9</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>1.5</td>
<td>2</td>
<td>170</td>
<td>normal</td>
<td>moderate</td>
<td>Good</td>
<td>no works required</td>
<td>B [2]</td>
<td>2.5</td>
<td></td>
</tr>
</tbody>
</table>

Wilbytree Surgeons Ltd  
Date: Dec 2010
BS 5837 TABLE 1 - CASCADE CHART FOR TREE QUALITY ASSESSMENT

### TREES FOR REMOVAL

<table>
<thead>
<tr>
<th>Category and definition</th>
<th>Criteria</th>
<th>Identification on plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category R</strong>&lt;br&gt;Those in such a condition that any existing value would be lost within 10 years and which should in the current context be removed for reasons of sound arboricultural management</td>
<td>• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other R category trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)&lt;br&gt;• Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline&lt;br&gt;• Trees infected with pathogens of significance to the health and/or safety of other trees nearby (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality&lt;br&gt;NOTE Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree).</td>
<td>DARK RED</td>
</tr>
</tbody>
</table>

### TREES TO BE CONSIDERED FOR RETENTION

<table>
<thead>
<tr>
<th>Category and definition</th>
<th>Criteria — Subcategories</th>
<th>Identification on plan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category A</strong>&lt;br&gt;Those of high quality and value: in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)</td>
<td>1 Mainly arboricultural values&lt;br&gt;Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)</td>
<td>LIGHT GREEN</td>
</tr>
<tr>
<td></td>
<td>2 Mainly landscape values&lt;br&gt;Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 Mainly cultural values, including conservation&lt;br&gt;Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or woodland pasture)</td>
<td></td>
</tr>
<tr>
<td><strong>Category B</strong>&lt;br&gt;Those of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)</td>
<td>Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality</td>
<td>MID BLUE</td>
</tr>
<tr>
<td>Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)</td>
<td>Trees present in groups, or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit</td>
<td></td>
</tr>
<tr>
<td><strong>Category C</strong>&lt;br&gt;Those of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10 years 15 suggested), or young trees with a stem diameter below 150 mm</td>
<td>Trees not qualifying in higher categories</td>
<td>GREY</td>
</tr>
<tr>
<td>Trees not qualifying in higher categories</td>
<td>Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit</td>
<td></td>
</tr>
<tr>
<td><strong>NOTE</strong> Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150 mm should be considered for relocation.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>